Based on the import volume for the product containing NCS

The import volume of the product containing NCS to US is estimated to be 50MT and 200MT for the first and third year, respectively. With respect to NCS, it'd be [redacted] for the first and third year, respectively (based on [redacted] of the NCS in the product).

The NCS is used as resin/binder in paint formulations for industrial and architectural coatings. The formulated product containing ~50% of the NCS will be packaged and supplied to painting companies for industrial and architectural applications. The painting companies will apply it to surfaces by rolling, brushing or spraying. The final application could be done using robots, or by professional painters. The NCS upon the final application will be hydrolyzed and condensed to form a coating on the surface.

Description of Customer Use of New Chemical Substance (NCS)

Per year:

[redacted] of the product, containing [redacted] of the resin, packed in [redacted]; 10 - 25 sites. If the final paint contains 50% of the NCS, [redacted] will be produced in total by all sites.

Packaged in [redacted].

Assuming average batch size of 250 gallons (source: EPA control of VOC emissions from ink and paint manufacturing process, https://www3.epa.gov/ttncatc1/dir1/ink_paint.pdf page 102)

250 gallons is roughly 1000 kg of the finished product containing 50% of the resin. It requires about [redacted] drums of [redacted] pure material.

[redacted]/1 MT batch size of the final paint = [redacted] **batches per site per year**

Exposure, Activity A:

For a regular worker, the connection or disconnection would take no more than one minute. Let's presume 10 min per drum.

The drums are placed in corresponding pumping equipment, opened, and then fitted with the pump and sealed

The metering equipment (containing the pump) and the dispensing unit are usually not washed, but rather purged with the next product they want to run.

[redacted]**; per site per year: [redacted] batches, [redacted] drums per batch, 10 min each; 0.5 hour per day, [redacted] days, 1 worker**

PPE: chemical resistant gloves and clothing, protective eyewear, hard hats, safety shoes
Engineering controls: proper ventilation, spill containment; closed systems for material transfer, liquid, where possible
Release: POTW
Hydrolysis of the NCS at the drum reclaimer facility. Hydrolysis, which destroys NCS, occurs in minutes, and as a result, no NCS will be released into the surface waters

Exposure, Activity B:

Fully automated, no operator exposure

Exposure, Activity C:

Fully automated, no operator exposure

Exposure, Activity D:

[redacted] of the final paint formulation, 50% NCS;

One worker applies 80 kg/day of paint per day. The year has 250 working days.

[redacted] of paint, if applied every day, will involve [redacted] workers.

If 100 workers are involved, they will use up all paint in [redacted] days.

Release point 1:

Presuming [redacted] sites, 250 working days/year.

Per drum: 200 kg/drum x [redacted] x 3% residue = [redacted] **NCS residue**.
Per year in total: [redacted] **NCS residue.**
Per site per day: [redacted] /[redacted] sites /250 days x [redacted] residue per drum = [redacted] **of the NCS**
Per site per batch: [redacted] per batch x [redacted] residue per drum = [redacted] **of the NCS**

Release: POTW

Hydrolysis of the NCS at the drum reclaimer facility. Hydrolysis, which destroys NCS, occurs in minutes, and as a result, no NCS will be released into the surface waters

Release point 2:

The metering equipment and the dispensing unit are usually not washed, but rather purged with the next product they want to run

When production lines and mixing equipment washed with water and detergent hydrolyzes any residual NCS within minutes.

Release point 3:

Presuming 250 working days/year, undefined number of painting sites

Per drum: 200 kg/drum x [redacted] x 3% residue = [redacted] **NCS residue**.
Per year: [redacted] **NCS residue.**
Per day: [redacted] /250 days x 3 kg residue per drum = [redacted] **of the NCS per day, in total**

Release: Landfill
Residual coating formulation in containers will be moisture-cured due to ambient humidity.